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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO.   |
|--|-------------|----------------------|------------------------|--------------------|
| 09/607,649   | 06/30/2000  | Chin Long Cheng      | 609920600005           | 9489               |
| 7590   | 05/04/2004  |                      | EXAMINER<br>AHN, SAM K |                    |
| David B Cochran<br>North Point<br>901 Lakeside Avenue<br>Cleveland, OH 44114 |             |                      | ART UNIT<br>2634       | PAPER NUMBER<br>10 |

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/607,649

Applicant(s)

CHENG ET AL.

Examiner

Sam K. Ahn

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on amendment, received on 02/09/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5 and 9-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 9-18 is/are allowed.
- 6) ☒ Claim(s) 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims ~~5 and 19~~ 19 have been considered but are moot in view of the new ground(s) of rejection.

***Specification***

2. The disclosure is objected to because of the following informalities: in regards to the Amendments to the Specification, please correct the Application No. of the current application to 09/607,649, not 09/607,647 as disclosed in the amendment.

Appropriate correction is required.

***Claim Objections***

3. Claim 19 is objected to because of the following informalities: In line 3, delete "the current sampling instance" and insert "a current sampling instance" as there is no antecedent basis for the limitation. Note paragraph 5 of the previous office action
- Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 19 is rejected under 35 U.S.C. 102(e) as being anticipated by Krasner (cited in the previous office action).

Regarding claim 19, Krasner teaches a method of producing a correlation lag for a spread spectrum signal sample. (see Fig.2) Krasner teaches that correlation lag of sampling instances are generated and enters loop integrator (210). Here, the correlation lag is stored in a storage means or a shift register. (note col.4, lines 50-57) As this correlation lag of sampling instance becomes the correlation lag of a prior sampling instance, a correlation lag of a current sampling instance enters the loop integrator. Then, correlation lag of current sampling instance is generated based on the correlation lag of prior sampling instance as it flows in a loop to a summer (208).

The spread spectrum signal samples are stored at different sampling instances in a shift register. (note col.4, lines 50-57) And Krasner further teaches wherein the correlation lag for the current sampling instances are computed based on previous sampling instance, as explained above, a reference code (see Fig.2, PN coefficients), spread spectrum signal samples at different sampling instances. (see R1 ~ R2045 in Fig.6A) One skilled in the art would be able to analyze that the sampling instance stored in R1 is the current sampling instance, which makes the sampling instances stored in R2~R2045 holding the plurality of

previous sampling instances where all these elements are computed to provide in the output the correlation lag for the current sampling instance.

***Allowable Subject Matter***

5. Claims 5 and 9-18 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:  
Present application discloses a method and apparatus for correlating a plurality of spread-spectrum signal sample with a reference code. It comprises a spread spectrum signal storage means, subtraction means, multiplication means, correlation lag storage means and addition means configured in such a way that correlation lag for a present sampling instance is based on correlation lag of a previous sampling instance. Closest prior art, Krasner, teaches a GPS receiver comprising correlator generating correlator lag for present sampling instance based on a previous sampling instance. However, Krasner does not teach generation of correlation lag for present sampling instance through configuration of all the elements recited in the independent claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

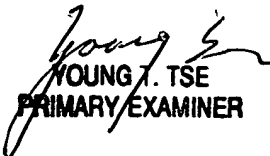
**or faxed to:**

**(703) 872-9306**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn  
4/26/04

  
YOUNG T. TSE  
PRIMARY EXAMINER